Statement of
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U.S. Department of Transportation

Before the
Subcommittee on Highways, Transit, and Pipelines
Committee on Transportation and Infrastructure
U.S. House of Representatives
May 10, 2006

Chairman Petri, ranking member DeFazio, and members of the Subcommittee, it is my distinct pleasure today to represent Secretary Norman Y. Mineta, and J. Richard Capka, the Acting Administrator of the Federal Highway Administration (FHWA), to discuss with you issues of highway capacity and freight mobility.

The drivers of freight movement

The past few decades have marked a period of tremendous economic growth for the United States. Between 1990 and 2003, employment grew by 16 percent, U.S. GDP increased by 46 percent, U.S. foreign trade more than doubled, and the U.S. population grew by 16 percent and is fast approaching 300 million. This period has also been a very productive one for the U.S. transportation sector. The Dow Jones Transportation Average (DJTA), composed of 20 stocks that are chosen to represent the transportation industry, is one of the most widely recognized gauges of the strength of the transportation sector. Between 1990 and 2003, the DJTA doubled; since 2003, it has doubled again. Today, transportation is woven into the economic fabric of the nation as never before. Open trade policies have lowered costs for U.S. consumers and promoted U.S. economic growth, but have also resulted in new strains on the transportation system.

That much economic power generates freight movement – a lot of freight movement. U.S. economic growth is dependent on the efficient and reliable operation of our nation's freight transportation system, and the logistics system employs well over 2 million Americans. The volume of freight growth across our country has accelerated over the last 15 years. Over that time period, freight volume has increased 18 percent and ton-miles increased 23 percent. The value of commercial shipments increased over 45 percent from 1993 to 2002. And while freight moves by multiple modes, the predominant mode for freight movement is by truck. Trucks now carry 60 percent of volume and 70 percent of the value.

The nation's highways handled over 1.5 trillion ton-miles of commodities in 2002; a substantial share involves long-distance trucking. By 2002, approximately 525,000

commercial trucks traveled 44 billion miles on trips greater than 200 miles and carried nearly 3 billion tons of goods worth over $4 trillion.

The construction of the Interstate System significantly expanded the reach of efficient truck movement across a much broader and more diversified geographic range than ever before. Simultaneously, containerization trends increased the velocity and efficiency of goods movement and removed significant transaction costs.

Source: U.S. Department of Transportation

This picture shows current container throughput at major seaport gateways, as well as projected volumes, given current growth rates.

Deregulation of the trucking and railroad industries unleashed enormous efficiencies in the U.S. transportation sector. Technological advancements improved information transfer increasing freight visibility. These changes have dramatically reduced inventory carrying requirements and freed up funds for further productivity gains. Logistics (transportation and inventory) as a percentage of GDP dropped from 16 percent in 1980 to 10 percent in 2000.

SAFETEA-LU's boost to responding to the challenges of freight mobility

Let me thank the Subcommittee and Committee on Transportation and Infrastructure for all of their work during the last surface reauthorization bill. The Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) included a number of important freight provisions. Although the Department will be testifying in the coming months on the implementation of SAFETEA-LU, I would like to highlight a few new and reauthorized programs affecting freight.

Five programs specifically have a freight emphasis or will provide substantial benefits to freight transportation. Projects of National and Regional Significance, the National Corridor Infrastructure Improvement Program, the Coordinated Border Infrastructure Program, the Freight Intermodal Distribution Pilot Grant Program, and the Truck Parking Facilities Program allocate $4.6 billion over five years to address some of the challenges to freight movement I referred to earlier.

SAFETEA-LU also made important changes to the Transportation and Infrastructure Finance Improvement Act (TIFIA) when it lowered the project threshold to $50 million and made more intermodal surface freight facilities eligible. SAFETEA-LU also amended the Internal Revenue Code by creating $15 billion in tax-exempt private activity bond authority for qualified highway and surface freight transfer facilities. These two additional tools encourage more innovative financing solutions to freight challenges.

SAFETEA-LU also invests in research, training, and education in freight professional capacity building to strengthen decision making at State and local agencies. The Act provides $3.5 million over four (4) years that will be used to support FHWA's established Freight Professional Development (FPD) Program to support targeted training and technical assistance to States and localities, and we look forward to it moving forward expeditiously. SAFETEA-LU also created the National Freight Cooperative Transportation Research Program, managed by the Research and Innovative Technology Administration (RITA), to study critical topics related to freight capacity and planning

Finally, the Department is eager to begin its work on the National Surface Transportation Policy and Revenue Study Commission, which I am pleased to say will hold its first meeting later this month. The Secretary, as Chair of the Commission, will call on the Department's freight modeling and analysis capabilities in support of the Commission's work.

National Freight Policy

In addition to the important changes made by SAFETEA-LU, the Department has undertaken a significant initiative to work with other governmental agencies and the private sector to improve the performance of the national freight system. These efforts have coalesced into a National Freight Policy Framework. The Framework began with the proposition that the Federal government is but one of many players involved in the U.S. freight transportation system. Effective policy solutions will require coordinated and collaborative action by both public and private parties. The Framework lays out objectives to achieve a vision, and then details strategies and tactics that the Department and its partners – both public and private sector – can pursue to achieve those objectives. We have begun the process of soliciting such input from all parties, and DOT looks forward to working with its partners to continue development of the framework over the coming months and years.

A new approach to freight solutions

With that as the backdrop, Secretary Mineta believes it is time to rethink assumptions and challenge conventional thought on how we build, finance, and manage the infrastructure in the United States. Right now, shippers, manufacturers, and operators are grappling with the costs of congestion – on top of near record energy prices. The objective of policymakers should be to reduce congestion, not simply slow the increase, through a broader implementation of market-based pricing mechanisms.

Today, in our 13 largest urban centers, drivers spend the equivalent of almost eight workdays each year stuck in traffic. According to the Texas Transportation Institute, in 2003, congestion caused 3.7 billion hours of travel delay and resulted in 2.3 billion gallons of wasted fuel, for a total cost of $63 billion. Commercial truck travel doubled over the past two decades. On one-fifth of the Interstate Highway System, trucks account for more than 30 percent of all vehicles. The Interstate System is a mixed use system and the congestion that affects our commutes also affects our ability to move freight through the transportation system; communities must work with limited capacity.

Congestion is not an insurmountable problem, but solutions will require more than physical capacity. We must do a much better job to improve productivity of existing highway assets. Fortunately, opportunities have emerged recently to do precisely that.

First, new technologies and operational improvements have enabled solutions to congestion that only a decade ago would have been impossible to implement. One such example is PierPass, where pricing has been used to shift truck traffic from peak hours to off-peak hours at the Ports of Los Angeles/Long Beach. A not-for-profit organization created by marine terminal operators, PierPass has significantly reduced congestion in and around the Ports, including on the previously clogged I-710. Another example of the use of new technology is the employment of variable and dynamic pricing as tools for congestion management, where pricing fluctuates based on traffic volumes. We have seen such technology employed in Southern California, specifically on SR-91 and I-15. In addition to other successful demonstrations, there is little question at this point that market-based pricing mechanisms offer enormous promise to reduce congestion.

Technology can also be harnessed to explore new ways of supporting infrastructure development and balancing costs and benefits for system users. Oregon's experiment to tax highway users based on total vehicle miles traveled instead of gallons of fuel consumed is one such example. The experiment is funded, in part, by a grant from the Department's Value Pricing Pilot Program. Several hundred vehicles in Oregon have been equipped with GPS devices or odometer sensors. When vehicles refuel at gas stations, summary data on vehicle usage is transmitted to the fuel pump via radio frequency, and the appropriate mileage tax is included in the overall purchase price of the gas.

In addition, the President's FY 07 Budget proposes a new pilot program to evaluate innovative ways to better finance and manage the Nation's highway system. In this pilot, $100 million will be made available for up to five States to conduct a large scale (State-

wide or in an urban/suburban area) field test using specific facility charges, charges based on system-wide use, or some combination.

Beyond innovative financing, operational improvements are critical to addressing congestion. Approximately half of all congestion is caused by non-recurring incidents such as crashes and mechanical failures, weather, construction and special events. FHWA's Office of Operations plays a key role in helping to mitigate freight-related congestion. FHWA is also working with new technologies, developing intelligent transportation systems (ITS) for both vehicles and infrastructure that help to relieve congestion, improve safety and enhance American productivity.

Finally, the Department will continuously work to support financing models that respond to market signals and allow for more private investment in transportation infrastructure. Where appropriate, we will work to facilitate projects that look beyond the traditional funding mechanism of government grants. Innovative approaches come in many forms, whether public-private partnerships, credit programs such as TIFIA, or tax incentives such as the Private Activity Bonds authorized by SAFETEA-LU.

SAFETEA LU also created new opportunities for States to use tolling to manage traffic and to finance the construction of more highway capacity. The law authorized the Express Lanes Demonstration Program, the Interstate Construction Toll Pilot Program, the Interstate System Reconstruction and Rehabilitation Pilot Program, and the extension of the Value Pricing Pilot Program. These programs are vital to funding additional capacity and rehabilitation of existing facilities. The Department will continue to explore the use of direct user fee approaches to increase opportunities for private capital investments and improve overall system performance.

A number of States have enacted "public-private partnership" laws, and a handful of States have comprehensive laws that permit a broad spectrum of private involvement in transportation projects. Private sector participation can facilitate decisions, bring needed capital to the table and deliver projects faster when projects are being evaluated. Private investment will also direct resources towards projects that generate the highest returns to both investors and the public. Two States that should be commended for their expansive public-private partnership laws are Virginia and Texas. Given these laws, it is not surprising that private involvement in these States has been robust and that considerable new capacity is either in the pipeline or up and running. We encourage all States to look at these mechanisms closely.

As freight continues to increase, environmental considerations must play an increasingly critical part in the planning, design, construction, and expansion of freight-related infrastructure. Acknowledging and including environmental mitigation actions early in the planning process could work to minimize resistance and conflict throughout the planning and construction phases.

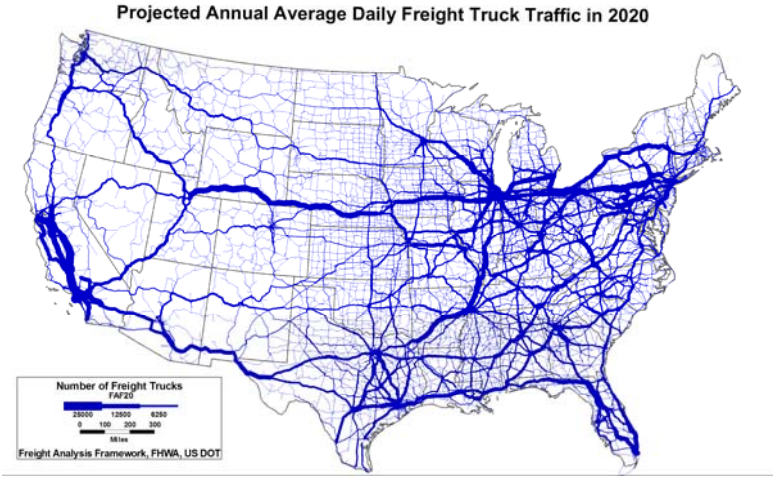
Understanding the dynamics of freight movement – data and modeling

The volumes of freight movement and their effect on the transportation system and the nation's economy make a compelling argument for our need to acquire reliable data and accurately model freight movement. Policy makers, investors, communities, business executives, entrepreneurs, and academics need to understand current and future freight activity to plan for and match infrastructure capacity to demand.

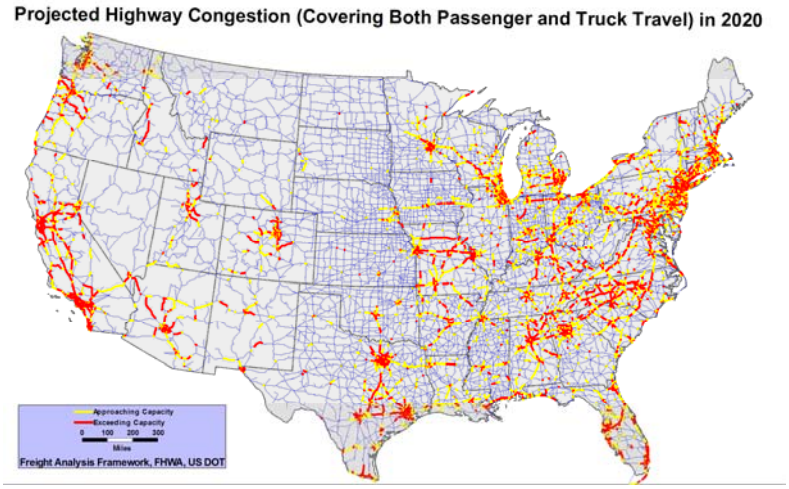
The Department has been developing that analytical capacity for the last five years. The Department's principal resource for understanding freight movement is the Freight Analysis Framework (FAF), which was designed, developed, and is maintained by FHWA's Office of Operations. The FAF has two main components; an integrated database of commodity (freight) movement, and a geographic information system (GIS) network of highway and rail routes over which the commodities move.

The Origin Destination (OD) database of freight movement is the foundation upon which the FAF is built. The bulk of the data that are contained in the current database comes from the Commodity Flow Survey (CFS), which is absolutely vital to the functioning of the FAF. The CFS provides tonnage and commodity type data on domestic shipments by mode of transport, and is conducted every five years as part of the Economic Census by the U.S. Census Bureau in partnership with the RITA's Bureau of Transportation Statistics of the U.S. Department of Transportation. The CFS is then augmented by other commodity flow surveys to create an OD matrix of commodity flows and related freight transportation activity among States, regions, and major international gateways. The data collected are at the national and regional level.

The OD matrix of commodity movement, which represents tonnages of commodities that move between origin and destination, is then converted to truck units and, through modeling, flowed over the GIS transportation network. The modeling of truck movement over the network generates the graphic representation of the data you see below.



This graph shows the predicted annual average daily freight truck traffic on the Interstate system in 2020.

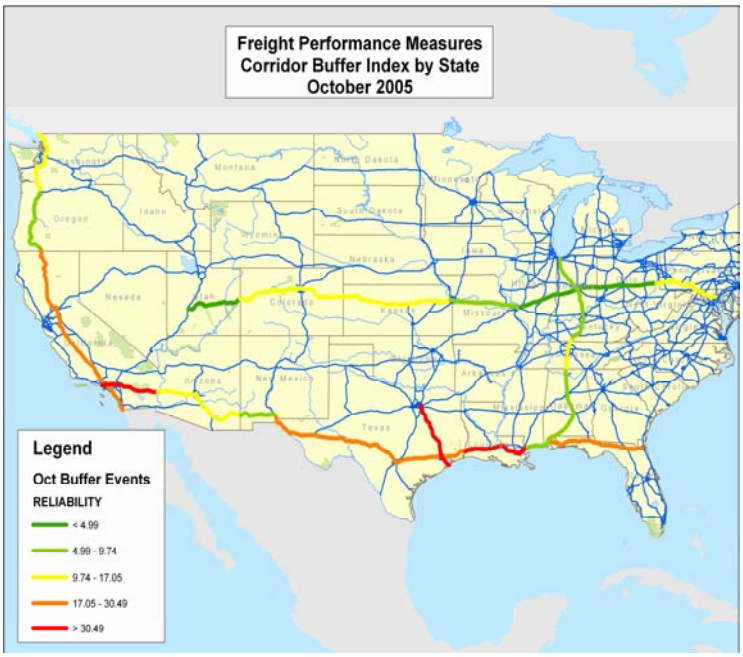


This graph shows the predicted areas of the Interstate system that will be congested (volume to capacity ratio >.75) in 2020.

FHWA continues to refine and improve its modeling efforts through initiatives such as a September 2006 Conference that they are sponsoring in concert with the Transportation Research Board (TRB). The goal of this conference is to develop a research agenda to advance the practice of freight modeling.

The FAF provides a powerful analytic engine to understand current freight movement and to predict future demand. From each five-year base, freight movement is forecast in five-year increments; for the 2002 base, forecasts will go out to 2035. The FAF enables "what if" scenarios to be conducted that can look at the effects of proposed capacity expansion, shifts in modal split, or, in the case of disasters, loss of capacity. FAF links the freight movement demand with infrastructure capacity. State and local transportation officials can augment the FAF data with local freight data to improve project planning at the local level, and FHWA is currently working with numerous State DOTs to advance this effort.

A new effort within FHWA's Office of Operations complements current urban traffic performance measures by using trucks as probes to measure the performance of the Interstate System. This effort is a public-private partnership between FHWA and the American Trucking Research Institute (ATRI). It provides a way to monitor the velocity and reliability of truck movement on the Interstate System. All identifying information is cleansed from the data stream so FHWA has no knowledge of which trucks are providing the data points. The FAF was used to select five freight significant corridors (I-5, I-10, I-45, I-65 & I-70) for study. Data from these five corridors was collected for the past year from approximately 250,000 trucks. From this data, FHWA is developing speed and travel time reliability measures for those corridors.



This graph shows the buffer index (BI) for five corridors of the Interstate system in October, 2005. The BI, a measure of reliability and variability, measures how much extra time one should allow to account for variations in the system.

In April 2006, this effort was expanded to a total of 25 corridors. FHWA is also establishing performance measures for border crossings using the same methodology and is in the process of developing those metrics.

We have barely scratched the surface of this new analytic tool. The data can be analyzed by time of day, direction, between origin/destination pairs, etc. It provides views into system performance we did not have before and helps us determine where we should be focusing our efforts. As with the FAF, FHWA is seeking to place this information in the hands of State and local officials for their use in managing the transportation system. To this end, FHWA is negotiating data sharing agreements and conducting case studies with seven States along the initial five corridors to determine ways States and local officials can utilize this data.

Capacity shortfalls in critical trade corridors and gateways pose a real threat to continued economic prosperity. The FAF is a critical tool for forecasting where demand either currently outpaces supply or soon will. The Freight Performance Measures (FPM) initiative can focus our efforts by providing a quantifiable metric of system performance.

The Department is doing everything possible to ensure that all the information derived from its freight modeling efforts is available to State DOTs, planners, academics, and the business community. Much of this information is now on FHWA's website, at http://ops.fhwa.dot.gov/freight. We have provided Subcommittee members and their staff with copies of the most recent edition of *Freight Facts and Figures*, which contains

a wealth of information on the performance of the national freight system, and with FAF profiles of their States.

Conclusion

To some measure, we are victims of our own successes. In a strong and growing economy inextricably linked to the global marketplace, the demand for freight mobility is challenging the national transportation system's capacity. While we are developing and improving our analytic capacity and transferring that capability to State and local transportation decision makers, the public sector has limited funds and the needs are great, despite record funding for surface transportation. But these are also exciting times. All of us involved in surface transportation need to be open to new approaches to building, financing, managing, and measuring the performance of the infrastructure that supports freight.

Thank you for the opportunity to speak today about highway capacity and freight mobility, and I will be happy to answer any questions that you may have.